# 2017 VA Ag BMP Cost-Share Program Training

DCR AgBMP/Conservation Planning/Resource Management Planning Application and Logi Updates

**Roland Owens** 

#### **Topics**

- Introduction of James Martin
- Who at DCR gets what questions about AgBMP Tracking/Conservation Planning/Resource Management Planning? What question go to data management staff (Roland and James) vs. program staff (CDCs, RMP Staff, AgBMP Staff).
- Application Development Plans for PY17
- Erosion Reduction Measures (Sheet/Rill vs. Gross/Gully, how the numbers are used to calculate N, P and Soil Loss reduction, data inconsistencies)
- Data QA/QC (min/max values for measures, Logi reports). The importance of "good" and "factual" data entry.

#### **More Topics**

- New Statewide Budget functionality for CREP, RMP and RCPP funds.
- How the Dashboard/Yearly Budget Summary pages work/calculate
- Logi Reports and what is available in Shared Reports
- Demonstrate How to run Logi carryover report, convert to excel and paste into the DCR provided Excel End of Year Workbook
- CEF and how it is calculated. What data inputs are required and considered.
- Review new mapping functionality (locating BMP Instance with a point, path to stream, BMP components)
- Q & A

#### Introduction of James Martin

- James comes to us from WorldView Solutions
- Lots of experience with BMP data and Logi
- Will serve as your primary contact for AgBMP/Conservation Planning/Resource Management Planning Application and Logi issues/questions.
- James.Martin@dcr.virginia.gov
- (804) 887-8916

#### Who at DCR gets what questions?

- Questions about how the application works, or if you encounter an error or bug, contact James/Roland
- Logi questions, contact James/Roland
- Password resets, contact James/Roland
- Additional or new access to applications, contact your CDC, who will route the form to Roland
- Questions about VACS program guidelines, or questions about what data should be entered, contact CDC or Gary/Stephanie
- Requests to change data in system, contact CDC or Gary/Stephanie and if they need help making the change they will contact James/Roland

## **Application Development Plans for PY17**

- Minimal changes to AgBMP Tracking/Conservation Planning/Resource Management Planning System
- Integration of Nutrient Management Planning Module into DCR System, including ability to link NMP and RMP land units for RMP verification (pending funding)
  - Hope to begin development by the end of the summer
- Development of Financial Module help DCR track all funds going to Districts
  - · Will start with a requirements gathering project towards end of the summer
  - Begin development during the fall/early winter
- Logi Upgrade
  - Will be asking you to review your personal Logi reports and delete out any ones that are no longer needed

#### **Erosion Reduction Measures**

- A few definitions from the PY17 Virginia Agricultural Cost Share Manual:
  - **Erosion Reduction:** For all practices, except grass filter strips, animal waste facilities, and water control structures, specify reduction in tons per acre. Some practices will have sheet and rill erosion, gully erosion, or both. Any wind erosion should be added to sheet and rill.
    - A. For Grass Filter Strips (WQ-1), use the procedure outlined starting on page WQ-1-4.
    - B. For Animal Waste Facilities (WP-4), specify total tons of manure treated on an annual basis.
    - C. For Water Control Structures (WQ-5), disregard soil loss calculations, distance and relief to stream. Extent requested and Extent Technically Authorized should indicate acreage of drainage area behind each structure.
  - **Gross Erosion Reduction:** Typically used to report soil lost from gullies. Determined by multiplying length, times width, times depth of the existing erosion gulley, times the specific weight of soil present, and then divided by the number of years of erosion that were required to create the gully condition. The resulting answer is reported in Tons of Soil Loss per year. Where applicable, gross annual erosion other than sheet and rill erosion may be calculated using RUSLE 2.
  - Revised Universal Soil Loss Equation (RUSLE): A soil loss equation principally
    used to estimate the rate that erosion is removing soil from critical parts of the
    landscape. Current NRCS guidance utilizes RUSLE 2 to calculate sheet and rill
    erosion.

## **Erosion Reduction Measures – DCR Calculations**

 The Soil Loss Reduction calculation is based on a Soil Loss Reduction Equation type (SDRED) which is defined for each practice where a soil loss reduction can be calculated. Other variables include Extent Requested (TECHAUTH), Acres Benefitted (ACRSBEN), Sheet/Rill Erosion Reduction (EROSRED) and Gross/Gully Erosion Reduction (GROSRED). Units are tons/year.

```
CASE @SDRED

WHEN 1 THEN (@EROSRED * @ACRSBEN) + @GROSRED

WHEN 2 THEN @EROSRED * @ACRSBEN

WHEN 4 THEN @GROSRED

WHEN 5 THEN (@EROSRED + 3.675) * @ACRSBEN

ELSE 0

END
```

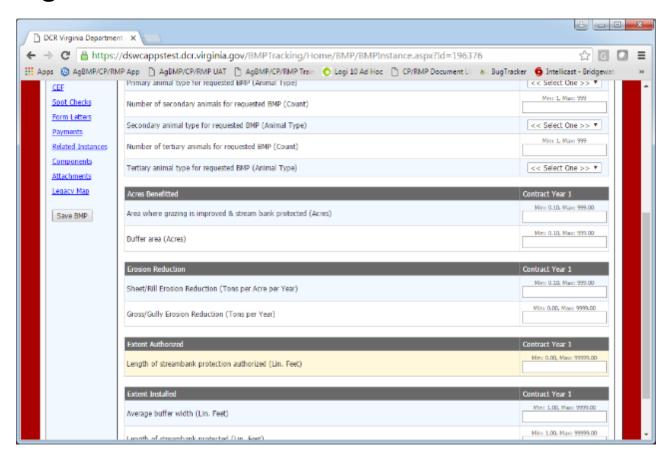
## **Erosion Reduction Measures – DCR Calculations**

• The values for both **Nitrogen and Phosphorus Reductions** are calculated for most practices (except RB practices) by first determining the soil loss reduction then multiplying by a Nitrogen or Phosphorus factor which is determined by County. If no soil loss reduction is calculated, no nitrogen or phosphorus reduction is calculated. Units are lbs/year.

```
Nitrogen Reduction = SoilReduction * @Nfactor
Phosphorus Reduction = SoilReduction * @PFactor
```

### Erosion Reduction Measures – Data Issues

 Data is entered on the measurements tab in the AgBMP Tracking Module



## **Erosion Reduction Measures – Data Issues**

• District 1 (PY2014 Data)

Practice Code	Extent Installed	Extent Installed Unit	Extent Benefitted	Extent Benefitted Unit	Sheet Rill Erosion (Tons per Acre per Year)	Gross Gully Erosion (Tons per Year)
SL-6	5000	Lin. Feet	52	Acres	1	2.8
SL-6	5800	Lin. Feet	100	Acres	1	1.6
SL-6	2300	Lin. Feet	52.3	Acres	1	1.1
SL-6	9500	Lin. Feet	32.5	Acres	1	2.5
SL-6	1200	Lin. Feet	33.9	Acres	1	2
SL-6	5000	Lin. Feet	58.6	Acres	1	2.6
SL-6	3540	Lin. Feet	3	Acres	1	2.5
SL-6	1600	Lin. Feet	10.71	Acres	1	0.5
SL-6	600	Lin. Feet	19.1	Acres	1	4.2
SL-6	4400	Lin. Feet	63	Acres	1	10.2
SL-6	2950	Lin. Feet	45.5	Acres	1	2.7
SL-6	3100	Lin. Feet	35.5	Acres	1	1.3
SL-6	3800	Lin. Feet	18	Acres	1	2.4
SL-6	1400	Lin. Feet	3	Acres	1	1.8

## **Erosion Reduction Measures – Data Issues**

• District 2 (PY2014 Data)

Practice Code	Extent Installed	Extent Installed Unit	Extent Benefitted	Extent Benefitted Unit	Sheet Rill Erosion (Tons per Acre per Year)	Gross Gully Erosion (Tons per Year)
SL-6	4180	Lin. Feet	37.11	Acres	1	6
SL-6	4075	Lin. Feet	60.9	Acres	1	6
SL-6	11007	Lin. Feet	101.24	Acres	1	6
SL-6	6862	Lin. Feet	66.88	Acres	1	6
SL-6	190	Lin. Feet	35.4	Acres	1	6
SL-6	1220	Lin. Feet	30	Acres	1	6
SL-6	10260	Lin. Feet	173.1	Acres	1	6
SL-6	14974	Lin. Feet	85	Acres	1	6
SL-6	1285	Lin. Feet	10.5	Acres	1	6
SL-6	5155	Lin. Feet	48.5	Acres	1	6
SL-6	9365	Lin. Feet	55.6	Acres	1	6
SL-6	4725	Lin. Feet	34.29	Acres	1	6
SL-6	7750	Lin. Feet	149.08	Acres	1	6
SL-6	855	Lin. Feet	12.44	Acres	1	6

## Erosion Reduction Measures – Why do we care?

- We are asked almost weekly to produce numbers to describe the benefits of BMPs...being able to show estimated sediment and nutrient reductions is a tangible way to show this benefit
- These numbers are used in number numerous reports that go to General Assembly and other stakeholders
- If the Erosion Reduction numbers are not accurate then the estimated sediment and nutrient reductions are not accurate
- Used in CEF, once again if the Erosion Reduction numbers are not accurate then CEF is not accurate

## **Erosion Reduction Measures - Solutions for Better Data**

- Bottom Line, we need better data so when asked to produce reduction numbers we have confidence in the results
  - When the Governor's office asks for numbers, hard to say "we don't know"
- For the Bay drainage, we can model reductions using VAST but a time consuming process to build input deck, and no way to model Southern Rivers drainage using this tool
- What can we do to help you produce better data?
- Better guidance, better tools?
- We will be looking at this data as part of QA review for PY16

#### Data QA/QC

- The importance of "good" and "factual" data entry
- We rely on your data to make program decisions almost every day so it is important that it is as accurate and up-todate as possible at all times (i.e. erosion reduction numbers)
- Measure Min/Max Values Contact you CDC if they are stopping you from entering valid data.

#### Data QA/QC – Logi Reports

- In Shared Reports > District Year End Reports folder
- BMPs to be Closed Out This report shows BMPs with statuses of Canceled, Canceled-Does Not Meet Criteria, Canceled-Lack Of Funding, Carryover, Complete or Pending-SL-6-Lack of Funding. At year end all BMPs must be Complete. User selects District (or all) and Program Year (or all).
- BMPs where Conservation Plan Date is Null Report returns BMPs where the conservation plan date is null. User selects District (or all) and Program Year (or all).
- BMPs where Extent Benefitted is Null Report returns BMPs where the extent installed is null. User selects District (or all) and Program Year (or all).

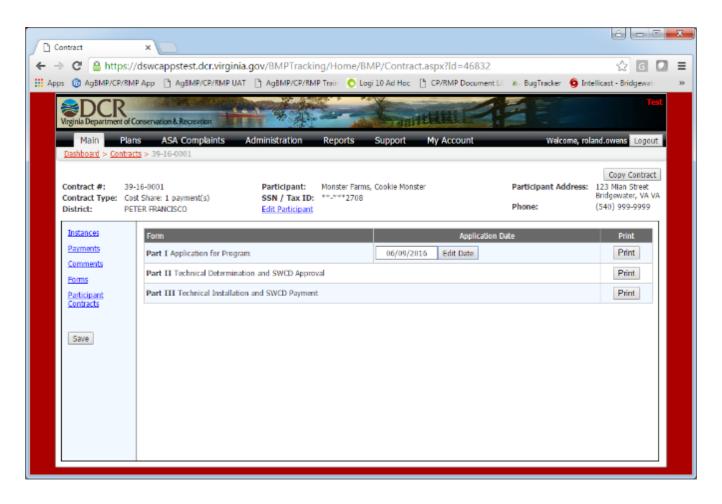
### Data QA/QC – Logi Reports

- Tax Credit Reports Several report so you can check your tax credit data. New tax credit functionality should eliminate most of these errors, but still worth checking if you issue tax credits
- PY15 Pending SL-6 Lack of Funding BMPs where CEF is Zero Report returns PY15 Pending SL-6 Lack of Funding BMPs where the CEF is zero indicating additional data is needed for CEF calculation. User selects District (or all) and Drainage (or all to also see un-mapped BMPs). A good way to check to make sure all your PY15 SL-6s have a CEF.
- There are other QA/QC reports in that folder
- Let us know if there are other QA/QC reports you think would be helpful

# New Statewide Budget Functionality

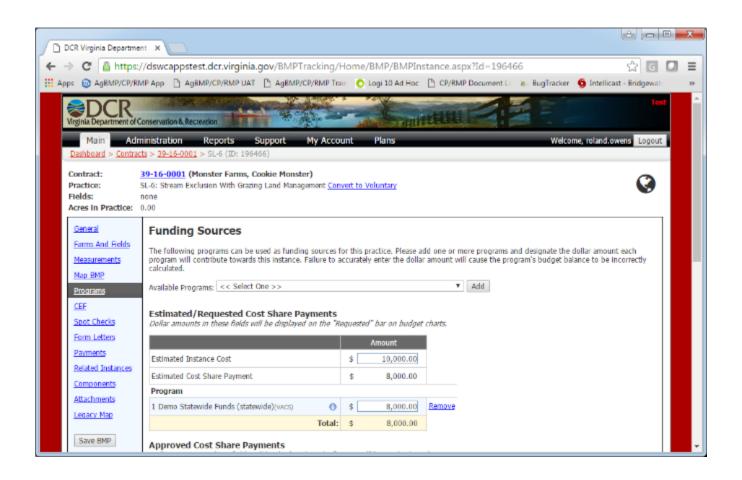
- For CREP, RMP and RCPP Programs (Funding Sources).
- Allows DCR to apply a statewide cap on the funds, approve on a first come/first serve basis from within AgBMP Module. Have had to use a combination of spreadsheets and Logi previously.
- The process for District users and DCR staff to manage these funds is similar to what they have been doing during this program year, but is now a little more automated in the module itself. The basic workflow follows.

1. District user creates a cost-share contract, adds the Application Date on the Forms tab

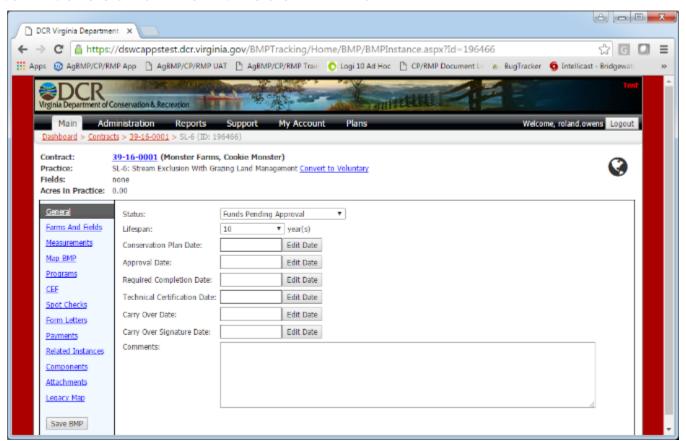


2. District user adds a BMP, and goes to Programs tab as usual to indicate the funding that is needed. Note that these new statewide Programs (Funding Sources) are tied to specific BMPs just like any other funding source. The user selects funding source from the Available Programs dropdown and adds it to the BMP.

Also note that under Estimated/Requested Cost Share Payments the Program has a '1' in front to indicate this is the first request, and '(statewide)' is included in the Program name. User enters the Estimated/Requested Cost Share Payments values as usual.

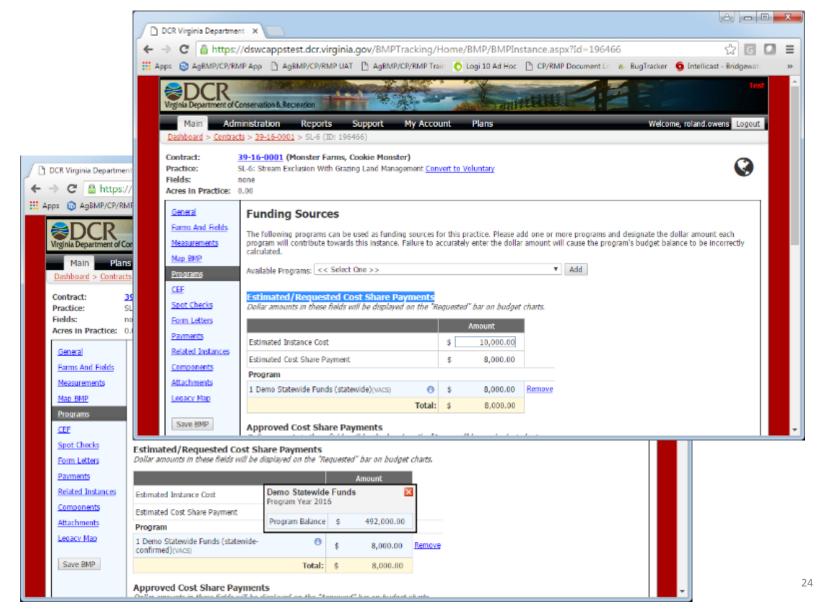


3. Next the District user goes to the General tab and sets the status to Funds Pending Approval. This is a new status that is only available for BMPs with statewide funding sources. By setting the BMP to this status it allows DCR staff to search for these BMPs.

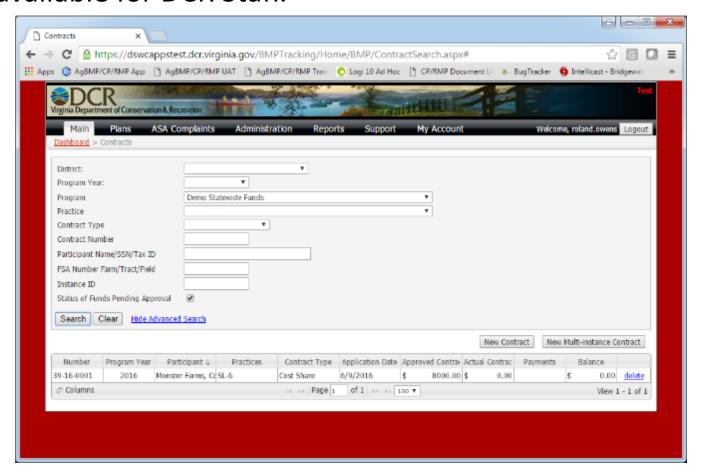


 Note that once the BMP is set to this status the Program specific value under Estimated/Requested Cost Share Payments is locked and cannot be edited. To edit this value before it is reviewed by DCR staff the BMP must be set back to the Unapproved status.

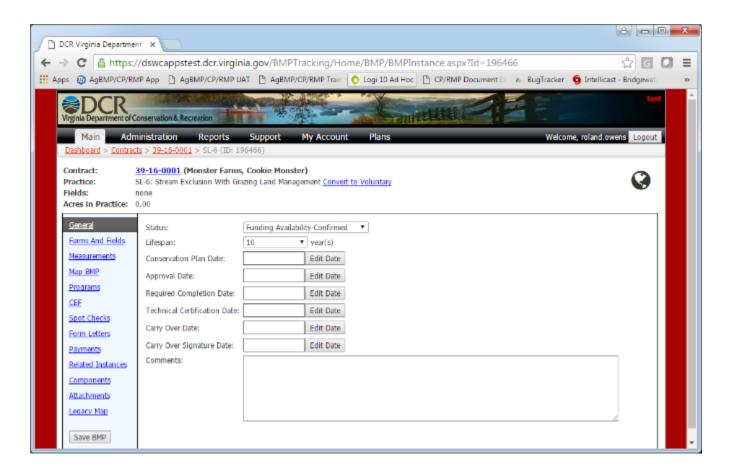
Also note that users can click on the 'i' symbol to see the available funds in for the statewide Program.



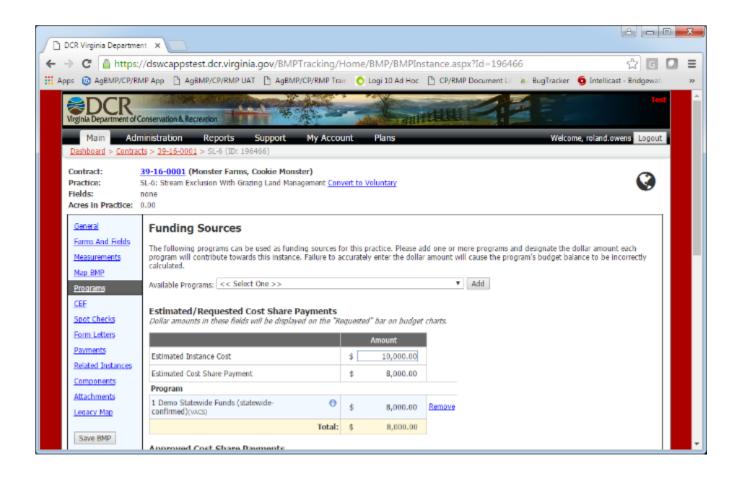
4. DCR Staff can search for Contracts in the Funds Pending Approval status from the Contracts page. Note that the Status of Funds Pending Approval checkbox is only available for DCR Staff.



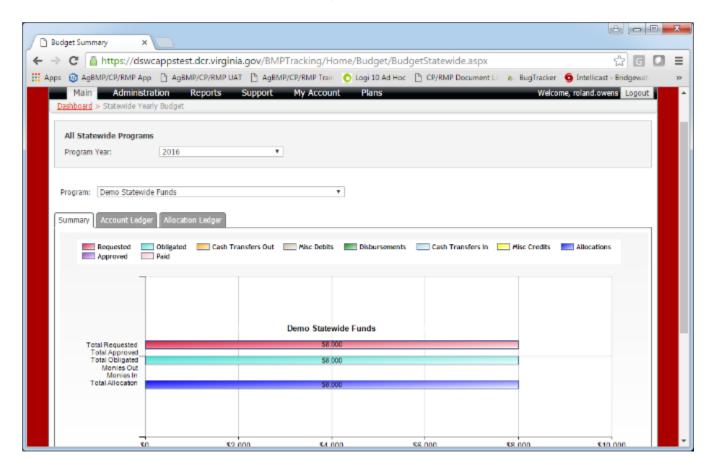
5. DCR Staff will then go to the BMP and mark the status as Funding Availability Confirmed. This is the indication to the District that the BMP is ready to be approved.



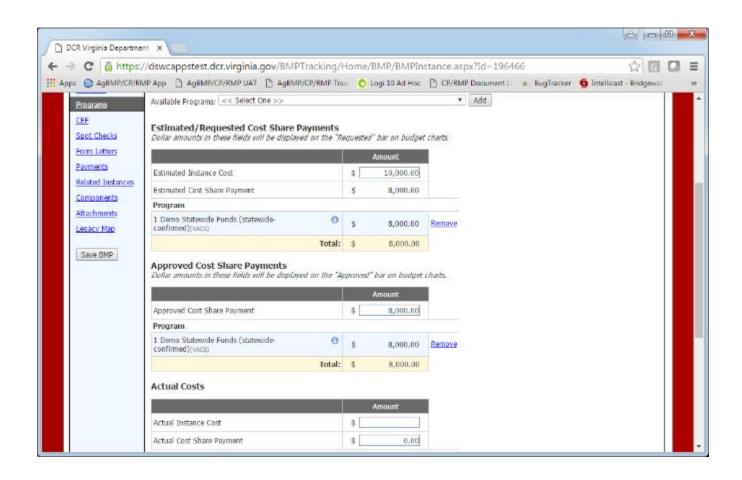
 On the Programs tab the District user will now see that the funding request has been confirmed for the Program under Estimated/Requested Cost Share Payments.



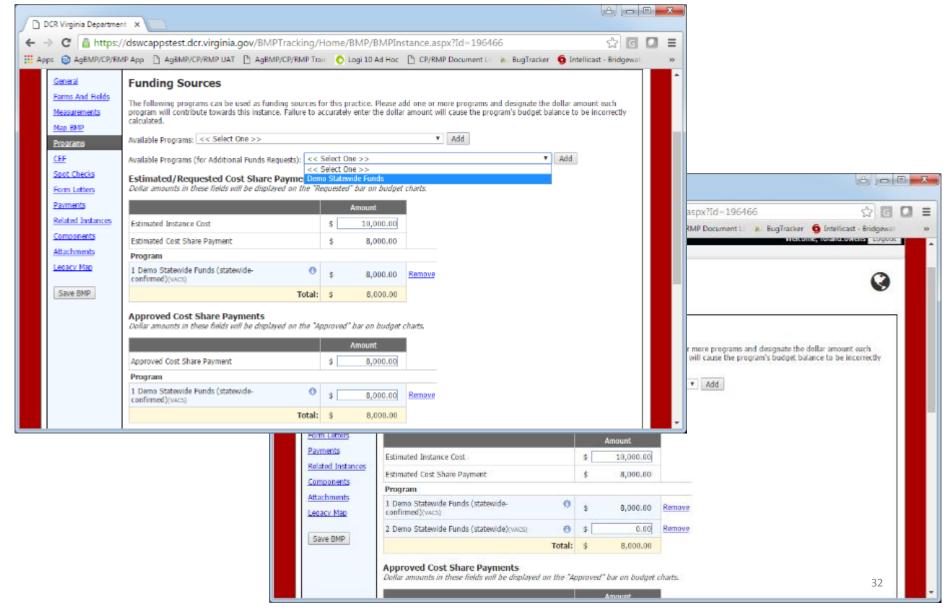
 The system also automatically generates an Allocation of the confirmed amount. There is a new Statewide Yearly Budget page for reviewing information about these budgets for DCR Staff to data for entire state, Districts still use Dashboard.



6. District users will then go through their normal approval process for the BMP. Once they are ready to make the approval in the AgBMP Tracking Module **District users** should first go the Programs tab and enter the correct values under Approved Cost Share Payments before marking the BMP as Approved since those values are locked for statewide funding sources once that change is made.



7. If additional funding is required from a statewide Program (Funding Source) the District user must set the status of the BMP back to Unapproved. When they do that they will have the ability to add a second request from the Available Programs (for Additional Funds Requests) dropdown. A second entry is created and the District user goes through the approval process as described above.



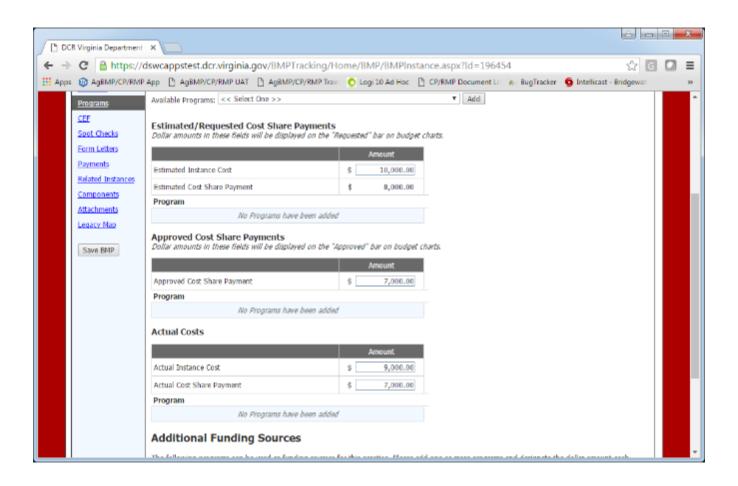
- Remember, this is only for CREP, RMP and RCPP Programs (Funding Sources) which are now being manage as a statewide budget through the system
- All of your other Programs (Funding Sources) (VACS) still work exactly as they have before.
- Questions?

#### Dashboard/Yearly Budget

 Most important thing to remember...for the Dashboard/Yearly Budget bars and tables all of the values are for the assigned Program (Funding Source). If there is not a Program assigned for a BMP on the Programs tab, or if dollar figures are not entered of the Program, nothing shows up in these graphics or tables.

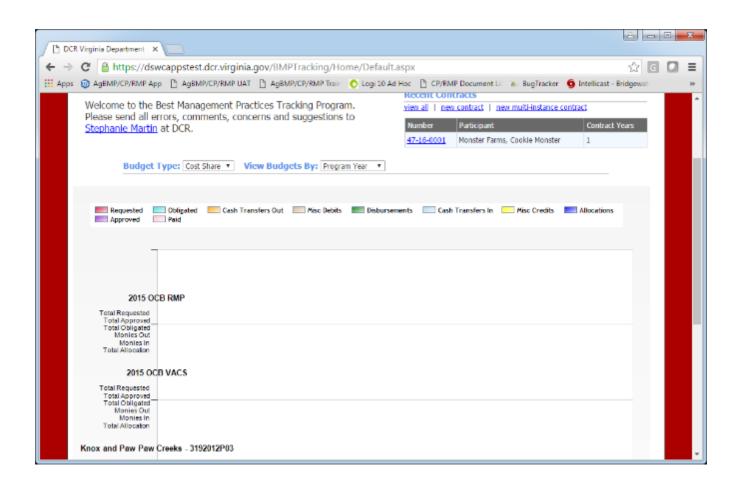
#### Dashboard/Yearly Budget

• So if you enter this (no Program (Funding Source) assigned):

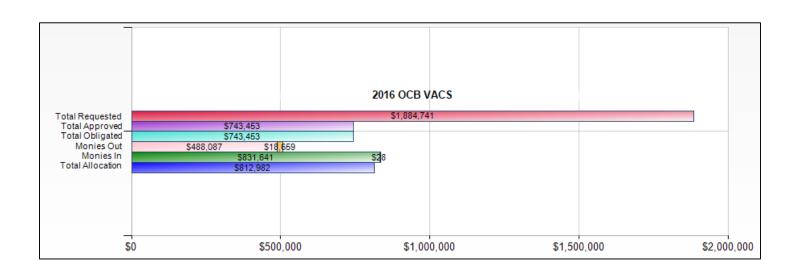


#### Dashboard/Yearly Budget

You will not see any budget summary information:



- What values are displayed where in the Dashboard/Yearly Budget bars and tables is dependent on the Program (Funding Source) assigned and the Status of the BMPs.
- So on your dashboard you see something like this:



- These figures are calculated in this manner:
  - Total Requested: Sum of amounts entered for BMPs under Estimated/Requested Cost Share Payments for a Program (Funding Source) when Status is Approved, Pending - SL-6 - Lack of Funding, Complete, Complete – Not Paid, Funding Availability Confirmed, Funds Pending Approval, Canceled - Lack Of Funding, Carryover or Unapproved
  - Total Approved: Sum of amounts entered for BMPs under Approved
     Cost Share Payments for Program when Status is Approved,
     Complete, Complete Not Paid or Carryover
  - Total Obligated: Sum of either the Approved or Actual amount dependent on Status, and, whether there is an Actual amount entered (otherwise the system uses Approved amount) for BMPs for a Program (Funding Source)

- Monies Out: Sum of payments and debits made via Transactions against Program (Funding Source)
- Monies In: Sum of credits and disbursements made via Transactions to a Program (Funding Source)
- **Total Allocation:** Sum of allocations transactions (allocation transfers out are stored as negative number) for a Program (Funding Source)

• On the Yearly Budget page for a Program (Funding Source) in addition to the graphic you get some more detailed information in a table. Using the same example as above the table looks like this:

Requested	\$1,884,740.50
Approved	\$743,453.25
Actual	\$683,002.45
Obligated	\$743,453.25
Paid	\$488,086.95
Misc Debits	\$0.00
Misc Credits	\$27.51

Allocations	\$812,982.18
Disbursements	\$831,641.04
Cash Transfers In	\$0.00
Cash Transfers Out	(\$18,658.86)
Allocation Remaining in Richmond	\$0.00
Funding left to Commit	\$69,528.93

- These figures are calculated in this manner:
  - Requested: : Sum of amounts entered for BMPs under Estimated/Requested Cost Share Payments for a Program (Funding Source) when Status is Approved, Pending - SL-6 - Lack of Funding, Complete, Complete – Not Paid, Funding Availability Confirmed, Funds Pending Approval, Canceled - Lack Of Funding, Carryover or Unapproved
  - Approved: Sum of amounts entered for BMPs under Approved Cost Share Payments for Program (Funding Source) when Status is Approved, Complete, Complete – Not Paid or Carryover
  - Actual: Sum of amounts entered under Actual Costs for Program (Funding Source) when Status is Complete, Complete – Not Paid or Carryover
  - **Obligated:** Sum of either the Approved of Actual amount dependent on Status as described above, and whether there is an Actual amount enter (otherwise the system uses Approved amount) for BMPs for a Program (Funding Source)

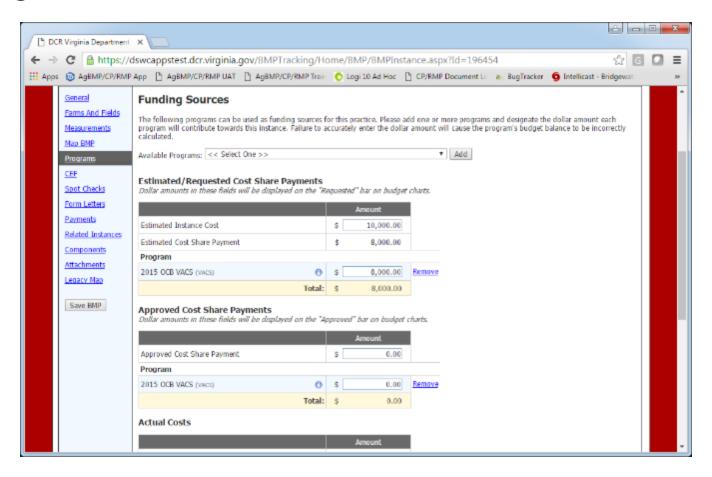
- Paid: Sum of payments made against Program (Funding Source)
- Misc Debits: Sum of transactions (other than Payments and Cash Transfers Out) where money is deducted from Program (Funding Source)
- Misc Credits: Sum of transactions (other than Disbursements and Cash Transfers In) where money is added to Program (Funding Source)
- Allocations: Sum of allocations transactions (allcoaiton transfers out are stored as negative number) for a Program (Funding Source)
- **Disbursements:** Sum of Disbursement transactions for a Program (Funding Source)
- Cash Transfers In: Sum of transactions where money is transferred into a Program (Funding Source) from another Program and/or District

- Cash Transfers Out: Sum of transactions where money is transferred out of a Program (Funding Source) to another Program and/or District
- Allocation Remaining in Richmond: This field is not currently calculating correctly...we will work on fixing
- Funding left to Commit: The Funding left to Commit is calculated by taking Allocations - Obligated

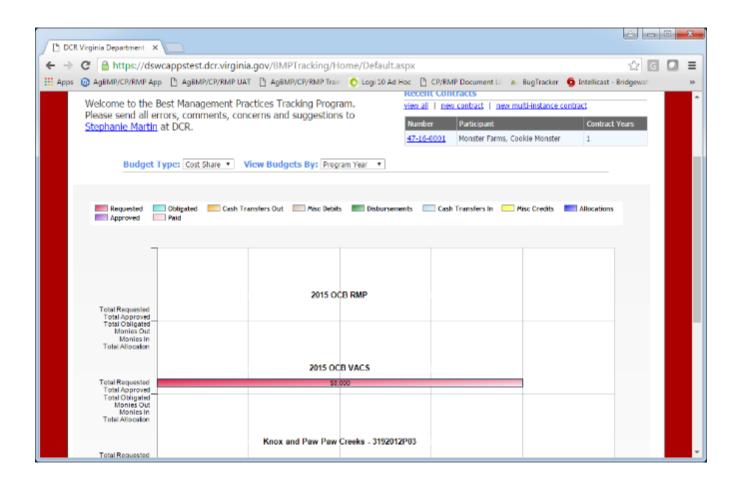
• As I mentioned above, what dollar figure show up where is partially tied to the status of the BMP. We control that through a table in the database.

	Contributes To	Contributes To	Contributes To
Status	Requested Cost	Approved Cost	Actual Cost
Approved	Yes	Yes	No
Pending - SL-6 - Lack of Funding	Yes	No	No
Complete	Yes	Yes	Yes
Canceled	No	No	No
Canceled - Yr 1	No	No	No
Canceled - Yr 2	No	No	No
Canceled - Yr 3	No	No	No
Funding Availability Confirmed	Yes	No	No
Funds Pending Approval	Yes	No	No
Inactive	No	No	No
Inactive - Destroyed	No	No	No
Canceled - Lack Of Funding	Yes	No	No
Canceled - Does Not Meet Criteria	No	No	No
Complete - Not Paid	Yes	Yes	Yes
Proposed	No	No	No
4th Qtr Carry Forward Lack of Funding	No	No	No
Carryover	Yes	Yes	Yes
Unapproved	Yes	No	No
Under Construction	Yes	Yes	Yes
Contract Yr 1 - Complete	Yes	Yes	Yes
Contract Yr 2 - Complete	Yes	Yes	Yes
Contract Yr 3 - Complete	Yes	Yes	Yes

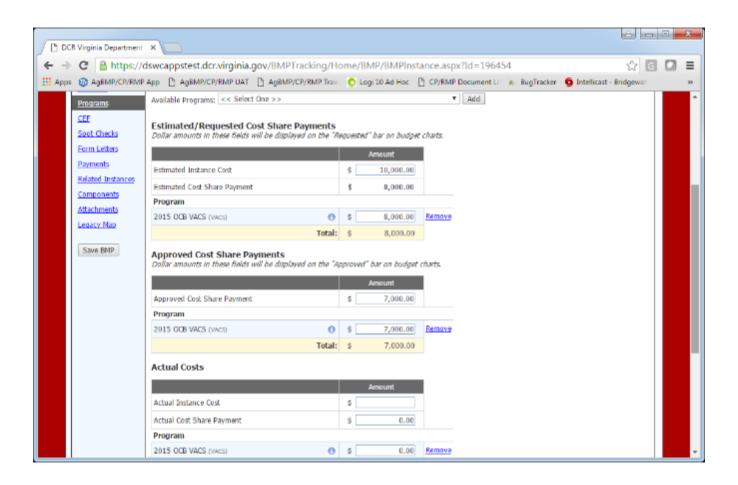
 Let's run through a quick example. You have a BMP, the status is Unapproved, and you enter these amounts on the Programs tab:



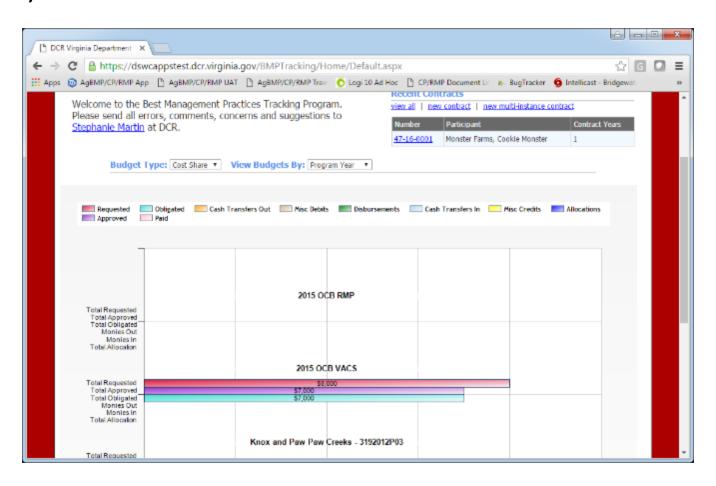
When you go to the Dashboard you would see this:



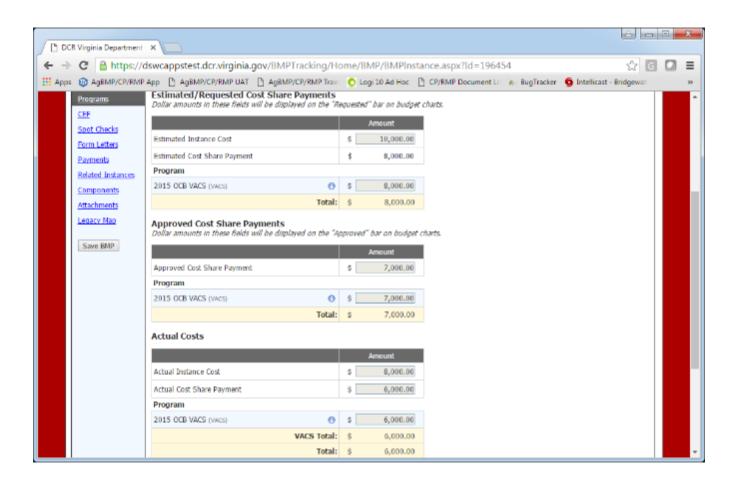
 You change the Status to Approved, and enter these values on the Programs tab:



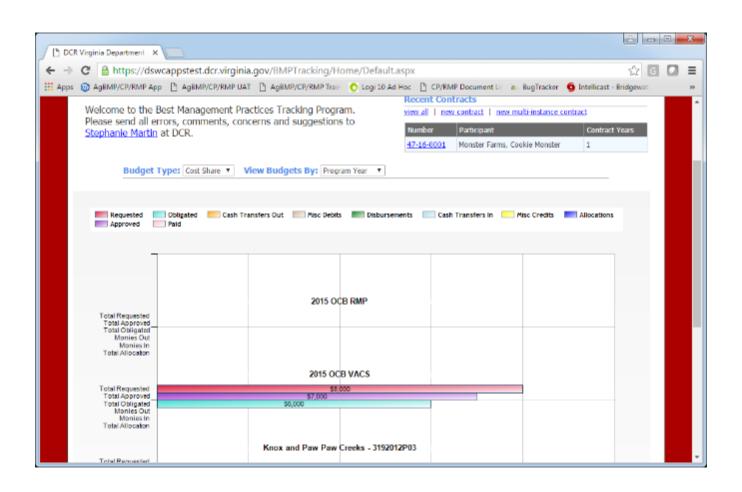
 Now you would see this on the Dashboard (Notice the \$7000 shows up in both the Total Approved and Total Obligated bars):



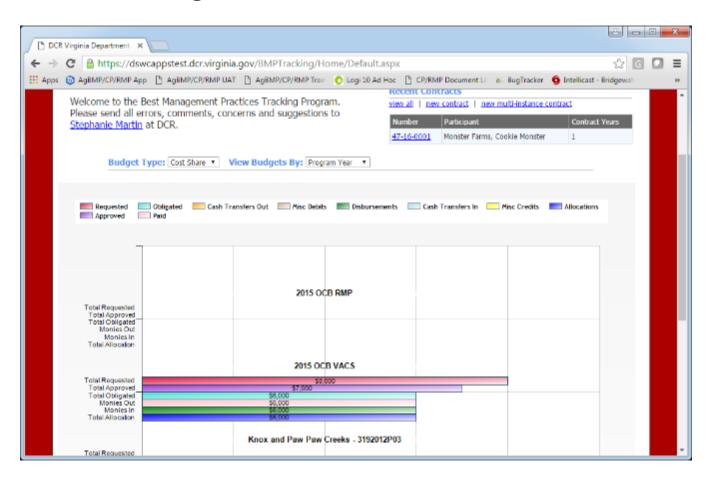
• You change the Status to Complete – Not Paid, and enter these values on the Programs tab:



• Now you would see this on the Dashboard (Notice the \$6000 now shows up in Total Obligated bar):



 And then if I enter some dummy data for Allocation and Disbursement, and make a Payment, the Monies Out Bar matches the Obligation:



• Questions?

#### **Logi Reports Shared Reports**

- Just a reminder that Logi is our main way for getting data out of the system
- There are a bunch of reports that have been developed for Districts to use in the Shared Reports folder
- You can also make copies of any shared report to your personal Logi folder so it can be modified to fit your needs
- Is there is a report you need please let us know...we would be glad to help you get it developed. Please contact James.
- Did you create a report that you think would be helpful for other Districts? Let us know and we can place it in the Shared Reports folder for everyone to use.
- Please let your CDC know of any training needs

#### **Using Logi for Year End Reports**

- Instructions were provided by your CDC
- Basic Steps
  - Log into Logi, navigate to Shared Reports > District Year End Reports folder
  - Run the report selecting the correct District and PY
  - At the bottom of the report click the Excel Icon
  - Another window may open as the spreadsheet is created. Depending on what browser you are using you may be prompted to save the report
  - Open the Logi spreadsheet, and open the 2016 End of Year Cost Share Report Workbook, and cut and paste the data between the two
- Demo for the Cost-Share Program Carryover Report
- Questions on this process/data should go to your CDC

#### **CEF**

#### A little background:

Since the late 1980s, there has been a conservation-cost efficiency calculation performed on Agricultural Best Management Practice (BMP) cost-share applications as an aid to Soil and Water Conservation Districts. The calculation tool has been continually improved upon. The Conservation Efficiency Factor (CEF) is used to compare the conservation value of one BMP application over another for the same or similar type of BMP in order to help rank them for funding approval.

The processes for calculating the CEF, and the values of the various components of the CEF, were developed by Karl Huber of the Virginia Department of Conservation and Recreation (Department). The CEF both includes and relies upon many factors, including the biennial Virginia Nonpoint Source Pollution Assessment by the Department and a current spatial layer of the areas associated with specific impaired waters identified by the Virginia Department of Environmental Quality (DEQ).

#### **CEF**

- Three big changes to CEF for PY17
  - Total Maximum Daily Load (TMDL) Implementation areas will be replaced with Impaired Waters as a CEF calculation component. The nonpoint source impairment (Impaired Waters) layer includes a much broader area of Virginia than TMDL Implementation Areas and will therefore be part of a greater number of CEF calculations.
  - Bacteria sources will be identified as being either from agricultural or septic sources. This will help to better target cost-share funding to agricultural practices.
  - Animal units will replace system units when appropriate in CEF calculations in order to better estimate the relative pollution reduction benefit of individual SL-6s and other livestock practices. CEF will also incorporate acres benefited by these practices.
- CEF will now also be calculated for streambank stabilization (WP-2A), animal mortality incinerator (WP-4F), and a few other practices initiated within the last few years.

#### **CEF**

#### Other CEF Notes:

- The changes to the CEF calculations for PY17 will not affect the way CEF is calculated for previous Program Years. So for the PY15 SL-6 backlog, the CEF values will still calculate the same way they do currently.
- The PY17 CEF changes will be installed for the start of the Program Year on July 1<sup>st</sup>. Until then CEF will not calculate for PY17 BMPs. We will run a script overnight on June 30<sup>th</sup> to populate these values where all the necessary data exists.
- The specific data needed for the CEF calculation for a BMP is displayed on the CEF tab in the AgBMP Tracking Module. If CEF is not calculating for a BMP check that tab to see what is missing.

#### Questions?

# Review of BMP Mapping Functionality

- Review of Integrated BMP Map
  - New Ag BMP Point tool
  - New Path-To-Stream tool
  - Components tab
  - Table of Contents TOC
  - Tools
  - Map Export
- Demo
- Questions?

#### **User Manuals**

- Extensive documentation has been developed for the AgBMP/Conservation Planning/Resource Management Planning Application as part of the development work of the past couple years
- Manuals can be found by clicking Support>Documentation in the application
- There are both PDF versions if you want the whole manual, or, interactive web-based versions

#### **Test and Training Systems**

- We are maintaining both a Test and Training version of the AgBMP/Conservation Planning/Resource Management Planning Application
- The Test version (has a red background) can be found here: <a href="https://dswcappstest.dcr.virginia.gov/BMPTracking/">https://dswcappstest.dcr.virginia.gov/BMPTracking/</a>
- And the Training version (has a blue background) can be found here:

https://dswcappstest.dcr.virginia.gov/Training/

- These are completely separate copies of the application and data, SSN/Tax Ids have been changed, Farm/Tract/Field data removed.
- Contact James or Roland for access

#### **Questions?**

- About anything we have covered today?
- About anything else?